

Environmental Protection Agency

§ 87.31

models introduced before January 1, 2014 apply and engines determined to be derivative engines for emissions cer-

tification purposes under the requirements of this part.

TABLE 4 TO § 87.23—TIER 8 NO_x STANDARDS FOR NEW SUBSONIC TURBOFAN OR TURBOJET ENGINES WITH RATED OUTPUT ABOVE 26.7 kN

If the rated pressure ratio is . . .	and the rated output (in kN) is . . .	The NO _x emission standard (in g/kN rated output) is . . .
rPR ≤ 30	26.7 < rO ≤ 89	40.052 + 1.5681 · rPR – 0.3615 · rO – 0.0018 · rPR · rO
	rO > 89	7.88 + 1.4080 · rPR
30 < rPR < 104.7	26.7 < rO ≤ 89	41.9435 + 1.505 · rPR – 0.5823 · rO + 0.005562 · rPR · rO
	rO > 89	–9.88 + 2.0 · rPR
rPR ≥ 104.7	all	32 + 1.6 · rPR

(d) This paragraph (d) specifies phase-in provisions that allow continued production of certain engines after the Tier 6 and Tier 8 standards begin to apply.

(1) Engine type certificate families certificated with characteristic levels at or below the Tier 4 NO_x standards of § 87.21 (as applicable based on rated output and rated pressure ratio) and introduced before July 18, 2012 may be produced through December 31, 2012 without meeting the Tier 6 NO_x standards of paragraph (c)(2) of this section. This also applies for engines that are covered by the same type certificate and are determined to be derivative engines for emissions certification purposes under the requirements of this part. Note that after this production cutoff date for the Tier 6 NO_x standards, such engines may be produced only if they are covered by an exemption under § 87.50. This production cutoff does not apply to engines installed (or delivered for installation) on military aircraft.

(2) Engine type certificate families certificated with characteristic levels at or below the Tier 6 NO_x standards of paragraph (c)(2) of this section with an introduction date before January 1, 2014 may continue to be produced. This also applies for engines that are covered by the same type certificate and are determined to be derivative engines for emissions certification purposes under the requirements of this part.

(3) An engine manufacturer may produce up to six newly manufactured Tier 4 engines on or after July 18, 2012, subject to the provisions of this paragraph (d)(3). Tier 4 engines meeting the criteria of this paragraph (d)(3) are ex-

cepted without request from the otherwise applicable Tier 6 NO_x emission standard. To be eligible for this exception the engines must have a date of manufacture prior to August 31, 2013 and be fully compliant with all requirements applicable to Tier 4 engines. The manufacturer must include these engines in the report required by § 87.50. This exception is void for any manufacturer that produces more than six excepted engines under this paragraph.

[77 FR 36382, June 18, 2012]

EFFECTIVE DATE NOTE: At 77 FR 36382, June 18, 2012, § 87.23 was added, effective July 18, 2012.

Subpart D—Exhaust Emissions (In-Use Aircraft Gas Turbine Engines)

§ 87.30 Applicability.

The provisions of this subpart are applicable to all in-use aircraft gas turbine engines certified for operation within the United States of the classes specified beginning on the dates specified.

§ 87.31 Standards for exhaust emissions.

(a) Exhaust emissions of smoke from each in-use aircraft gas turbine engine of Class T8, beginning February 1, 1974, shall not exceed: Smoke number of 30.

(b) Exhaust emissions of smoke from each in-use aircraft gas turbine engine of class TF and of rated output of 129 kilonewtons thrust or greater, beginning January 1, 1976, shall not exceed: $SN=83.6(rO)^{-0.274}$ (rO is in kilonewtons).

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(c) The standards set forth in paragraphs (a) and (b) of this section refer to exhaust smoke emissions emitted during operations of the engine as specified in the applicable section of subpart H of this part, and measured and calculated in accordance with the procedures set forth in this subpart.

[47 FR 58470, Dec. 30, 1982, as amended at 48 FR 2718, Jan. 20, 1983]

Subpart E—Certification Provisions

SOURCE: 77 FR 36383, June 18, 2012, unless otherwise noted.

EFFECTIVE DATE NOTE: At 77 FR 36383, June 18, 2012, subpart E was added, effective July 18, 2012.

§ 87.40 General certification requirement.

Manufacturers of engines subject to this part must meet the requirements of title 14 of the Code of Federal Regulations as applicable.

§ 87.42 Production report to EPA.

Engine manufacturers must submit an annual production report as specified in this section. This requirement applies for engines produced on or after January 1, 2013.

(a) You must submit the report for each calendar year in which you produce any engines subject to emission standards under this part. The report is due by February 28 of the following calendar year. Note that § 87.64 requires you to report CO₂ emission rates to EPA in addition to NO_x. Include these data in the report required by this section. If you produce exempted or excepted engines, you may submit a single report with information on exempted/excepted and normally certificated engines.

(b) Send the report to the Designated EPA Program Officer.

(c) In the report, specify your corporate name and the year for which you are reporting. Include information as described in this section for each engine sub-model subject to emission standards under this part. List each engine sub-model produced or certificated during the calendar year, including the following information for each sub-model:

(1) The type of engine (turbofan, turboprop, etc.) and complete sub-model name, including any applicable model name, sub-model identifier, and engine type certificate family identifier.

(2) The certificate under which it was produced. Identify all the following:

(i) The type certificate number. Specify if the sub-model also has a type certificate issued by a certificating authority other than FAA.

(ii) Your corporate name as listed in the certificate.

(iii) Emission standards to which the engine is certificated.

(iv) Date of issue of type certificate (month and year).

(v) Whether or not this is a derivative engine for emissions certification purposes. If so, identify the original certificated engine model.

(vi) The engine sub-model that received the original type certificate for an engine type certificate family.

(3) Identify the combustor of the sub-model, where more than one type of combustor is available.

(4) The calendar-year production volume of engines from the sub-model that are covered by an FAA type certificate. Record zero for sub-models with no engines produced during the calendar year, or state that the engine model is no longer in production and list the date of manufacture (month and year) of the last engine produced. Specify the number of these engines that are intended for use on new aircraft and the number that are intended for use as non-exempt engines on in-use aircraft. For engines delivered without a final sub-model status and for which the manufacturer has not ascertained the engine's sub-model when installed before submitting its production report, the manufacturer may do any of the following in its initial report, and amend it later:

(i) List the sub-model that was shipped or the most probable sub-model.

(ii) List all potential sub-models.

(iii) State "Unknown Sub-Model."

(5) The number of engines tested and the number of test runs for the applicable type certificate.

(6) The applicable test data and related information specified in Part III,